

Cartography and GIS approach to the environmental assessment in the region of the oil industry

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Abstract

© SGEM2014 All Rights Reserved. The given paper considers the methodological aspects of the Atlas mapping for the purposes of Sustainable Development in the regions of Russia. The Republic of Tatarstan viewed as a model territory where a large-scale oil-gas complex "Tatneft" PLC works. Methods for to the structure and requirements for the Atlas's content were outlined. The approaches to mapping of "an ecological dominant" of Sustainable Development (SD) conceptually substantiated following the pattern of a large region of Russia. The Atlas proposed to be developed, can be considered by its spatial scope as the regional one and by the content as the fundamental complex science-reference mapping guide which characterizes the environment situation in the east of Tatarstan, the conditions and factors that determine it, the tendencies to the change of the ecological state in the territory and in the centers, the measures to reach an ecological equilibrium. The methods of mathematical-mapping and computer modeling presume to compute spatial correlations and mutual conformity of phenomena and to estimate the homogeneity of the ecological conditions, to reveal the leading factors of distribution and phenomena and processes development using the means of multidimensional statistical analysis.

Keywords

Atlas, Environmental Assessment, Geographic information systems, Mapping, Oil-gas complex, Sustainable Development